

Terrill E. Massey

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Education

University: The University of North Carolina at Charlotte
Expected Date of Graduation: May 2015

Major: Electrical Engineering
Classification: Graduate Masters of Science
Major GPA: 3.43

University: The University of North Carolina at Charlotte
Date of Graduation: May 2013

Major: Computer Engineering
Classification: Bachelors of Science
Major GPA: 3.30

Professional Experience

Northrop Grumman Electronic Systems Co-Op Technical

Baltimore, MD
August 2014 – January 2015

- Enhanced a Graphical User Interface within an automated test environment for various GPPO/SMPM and GPO/SMP shroud and bullet connectors for S-parameter performance measurement through the use of MATLAB scripting.
- Designed a Graphical User Interface and data logging feature for an automated test environment that captures the high power RF performance of various GPPO/SMPM and GPO/SMP blind mate/shroud and bullet connectors through the use of MATLAB scripting.
- Successfully analyzed high power RF performance information obtained from the automated testing conducted for the various shroud and bullet connectors through the use of MATLAB scripting.
- Collaborated with other engineers to help contribute to a decision model that can determine future RF component alternatives that could potentially reduce costs (approximately 10% -20% reduction in program costs) in certain development programs.
- Successfully contributed documentation and a presentation intended for knowledge transfer (end of rotation presentation).

Verizon Wireless System Performance Intern

Charlotte, NC
June 2014 - August 2014

- Constructed system performance reports of 4G LTE network infrastructure for engineering team.
- Collaborated with an engineering team to develop a system performance monitoring tool for 4G LTE network infrastructure in the region.
- Successfully maintained a test bed that monitored the performance of a prototype network implementation.

University of North Carolina Charlotte Graduate Teaching Assistant - Digital Logic Design

Charlotte, NC
August 2013 – May 2014

- Successfully conducted lectures regarding the fundamentals of digital logic design that pertain to Boolean algebra, Boolean simplification, logic gate design, sequential logic design, and finite state machine theory on a weekly basis.
- Developed solutions for all course assignments and examinations and provided feedback to students.
- Provided tutoring to students on an individual basis as needed.
- Constructed design projects that incorporated the use of finite state machine design and VHDL programming.

Charlotte Research Scholars Research Fellow

Charlotte, NC
June 2013 – August 2013

- Successfully constructed a Software Defined Radio test-bed through the utilization of GNU Radio and the Universal Software Radio Peripheral for real time video streaming in a point-to-point wireless environment.
- Implemented a custom Medium Access Control and Physical Layer of a Network Stack in a Software Defined Radio environment.
- Created a time stamping module for packet transmission in the GNU Radio environment utilizing C++.
- Collaborated with other research assistants in order to achieve an overall understanding in the implementation of an advanced wireless protocol (Cooperative Diversity) in a practical wireless environment.

Cisco Systems Software Engineering Intern

Research Triangle Park, NC
June 4 2012 – August 17 2012

- Constructed, tested, and maintained Openstack Cloud Infrastructure for Cisco Virtualization Services.
- Developed an Open Management Interface Testing Environment for Cisco Nexus routers.
- Successfully presented and demonstrated the performance of the cloud infrastructure to Cisco Management and Software Engineering Team
- Lead a small design team in the construction and implementation of a later version of Openstack Cloud Infrastructure.

Major Academic Projects

- Designed a monitoring system for an automated hydroponic environment through the utilization of Arduino microcontroller, and provided real time user feedback and notification system to a mobile device with the Raspberry Pi Linux machine.
- Lead a team that developed a basic household security system through the utilization of Moore finite State Machine, and VHDL simulation in a FPGA environment.
- Successfully developed a network algorithm for an autonomous swarm formation of a cluster of quad copters in a remote environment with the utilization of Xbee wireless modules and a Texas Instrument microcontroller.
- Lead a team in the construction of wireless sensor network topology that successfully obtained temperature and vibration readings from the surrounding environment.

Academic Publications

- Nash, Audrow J., Terrill E. Massey, Christopher J. Wesley, and James M. Conrad. "Towards Establishing and Maintaining Autonomous Quadrotor Formations." *International Conference on Informatics in Control, Automation and Robotics* (2014).

Software Proficiencies

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|--------------|--------------------|--------------------------|------------------------|---------------------------|
| ▪ GNU Radio | ▪ JAVA | ▪ Kernel Virtual Machine | ▪ SQL database | ▪ Linux Environments |
| ▪ Embedded C | ▪ Python Scripting | ▪ VMware ESXi hypervisor | ▪ MATLAB | ▪ Linux Scripting |
| ▪ C++ | ▪ Arduino | ▪ TinyOS | ▪ Code Composer Studio | ▪ Wireshark Packet Tracer |

Hardware/Implementation Proficiencies

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|--------------------------------------|---|--|
| ▪ VHDL | ▪ Universal Software Defined Radio Peripheral N200 Series | ▪ Texas Instruments MSP430 microcontroller |
| ▪ IEEE 802.11 and 802.15.4 platforms | ▪ Renesas RX63N based microcontrollers | ▪ Field Programmable Gate Arrays (FPGA) |
| ▪ HEW platform | ▪ Renesas RX62N based microcontrollers | ▪ Xbee wireless network radios |
| ▪ Xilinx Platform | ▪ GNU Radio SDR Signal Processing Platform | ▪ Mica2 wireless sensor module |

Professional Affiliations

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|---|---|------------------|
| • National Society of Leadership Success - | IT Coordinator (2012 – 2013) | (2012 – Present) |
| • IEEE- Institute of Electrical and Electronics Engineers | Student Member | (2011 – Present) |
| • National Society of Black Engineers - | Academic Excellence Chair (2013 –Present) | (2011 – Present) |

Awards / Scholarships

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|---------------------------------|------------------------------|------------------|
| • North Carolina VA Scholarship | Full Tuition, Room and Board | (2009 – 2013) |
| • NC Space Grant | Research Assistant (\$4500) | (2014 – Present) |

Clearance Status

Secret Clearance
Northrop Grumman Electronic Systems

August 2014 – January 2015
Current Status: Inactive